PRE-CERCLIS SCREENING (PCS)
ASSESSMENT CHECKLIST/DECISION FORM

The checklist can be used to assist the site investigator during Pre-CERCLIS screening (PCS). This checklist should document the rationale for the decision as to whether further steps in the site investigation process are required under CERCLA. Use additional sheets, if necessary.

Ohio Environmental Protection Agency, Div. of Emergency & Remedial Response

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Site Name: Metals Refining Co.

Previous names (if any): The Glidden Co.; The Glidden Varnish Co.
Glidden & Joy Varnish Co.

Site Location: 11001 Madison Avenue; Cleveland, Ohio 44102-2500 Ecl 3/30/07
(See attached description and maps).
Latitude:41° 28' 36.4764" North;
Longitude: 081° 45' 47.5200" West
Congressional District 10 Ecl 3/30/07

PHASE A - CERCLA Eligibility Evaluation

If the answer to any one of these is yes, the sites can be NFRAPed or Archived	YES	NO
1.Is the site non-existent, or is it not a duplicate (or "alias") of another site?		X
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?		X
3. Are the hazardous substances potentially released at the site excluded statutorily (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release		X

located in a workplace, naturally occurring, or regulated by the NRC< UMTRCA, or OSHA)?		
4. Are the hazardous substances potentially released at the site excluded by policy considerations (e.g., deferred to RCRA Corrective Action, FIFRA, or Brownfields)?		X
5. Is there insufficient data (provided by the State) to verify that a release has occurred (e.g., based on potentially unreliable sources or with no information to support the presence of hazardous substances or CERCLA eligible pollutants and contaminants)?		X
6. Is there sufficient documentation that clearly demonstrates that there is no potential for a release that could cause adverse environmental or human health impacts (e.g., comprehensive remedial investigation equivalent data showing no release above ARARS, completed removal action, previous HRS score determined, or an EPA approved risk assessment completed)?		X

PHASE B - INITIAL SITE EVALUATION

Use Exhibit A to make site assessment decisions based on the answers below:	**YES**	**NO**
Is there documentation indicating that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		X
Is there an apparent release at the site with no documentation of exposed targets, but there are targets on-site or immediately adjacent to the site?		X
Is there an apparent release and no documented on-site targets, but there are nearby targets (e.g., targets within 1 mile)?		X
Is there indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on-site or in proximity to the site?		X
Documented on-site or nearby targets?		X
Uncontained sources containing CERCLA eligible substances are present on site.		X
There are releases or potential to release.		X

Please explain all yes answer(s). Responses above are based on investigation conducted as part of the Lead Smelter Sites Initiative. See Attached PCS Report Narrative.

EPA Regional Review and Site Assessment Decision

Check the box(es) that apply:

XXX o NFRAP/Archive
____ o APA
____ o Full PA
____ o Combined PA/SI
____ o SI

Defer/Refer to:

____ o Removal Program
____ o State/Tribal Program
____ o RCRA
____ o Brownfields
____ o Other: _____

Regional EPA Reviewer: Erica Islas Erica Islas 3/30/2007
Print Name / Signature Date

entered in CERCLIS
4/5/07
EQ

PRECERCLIS SCREENING REPORT NARRATIVE

INTRODUCTION

In the spring of 2001, the *American Public Health Journal* (APHJ) published a report on former lead smelting facilities that are potentially contaminated with high levels of lead (APHJ, 2001). The study was conducted by William P. Eckel, a doctoral candidate and an U.S. EPA employee. He cited 430 former secondary lead smelting facilities in 35 states that were unknown to federal and state authorities. The report divided the smelters into two types: Battery Lead Smelters or Babbitt Metal and Solder Smelters and/or Manufacturers. Of the smelters listed, 17 sites are located in Ohio. Ohio EPA was requested by U.S. EPA to conduct a Lead Smelter Sites Initiative under the Cooperative Agreement Grant to evaluate the sites identified by Eckel. This PreCERCLIS Screening (PCS) focuses on one of the nine sites in the Cleveland area, Metals Refining Company, a Battery Lead Smelter. Eckel discovered Metals Refining Co. was mentioned in the 1931 Standard Metal Directory, a national directory of the metals industries.

SITE DESCRIPTION

The former Metals Refining Co. property is approximately 9 acre in size, located at 11001 Madison Avenue, Cleveland, Ohio, 44102 in Cuyahoga County. The site is set on a triangle-shaped city block, bordered by Madison Avenue to the north and Berea Road to the southeast. Industrial or commercial properties and buildings surround the site in all four compass directions. The railroad tracks of the Cleveland Regional Transit Authority and Conrail run north of the site, in an east-west direction. On the west side of the property, on approximately 2 acres, is a historic tank farm (See Attachment One, Photographic Log.) According to the GIS web page map for the Cleveland City Planning Commission (CCPC), this property is zoned as Heavy Industrial (CCPC, 2003). (See Figure One, Site Location Map (USGS topo), and also, see Figure Two, 2002 Air Photo.)

The site is located in the Cleveland West Quadrangle, Ohio beginning at the intersection of the center lines of Berea Road N.W. (60" wide) and Madison Avenue N.W. Latitude is 41° 28' 36.4764" ; longitude is 081° 45' 47.5200" The surface elevation is approximately 710 feet above mean sea level (amsl). Lake Erie is about .085 mile north of the site.

Historically, the site is a multi-building paint and varnish manufacturing facility dating back to the 1920's. Some of the buildings have since been demolished, and several buildings have been connected to form the existing layout. Most of the area outside the footprint of the buildings is asphalted. Of the original three site buildings suspected of lead smelting activities, only one remains. The aerial photograph demonstrates the current site conditions. Based on a site visit conducted on December 10, 2004, no evidence was noted of battery lead smelting activities, either outside or inside the building(s).

The current property owner for 11001 Madison Avenue site (Parcel #005-01-003, industrial) is Berea Road West, Inc. Not Responsive . See the Site History Section, below, for more information on former owners. The site is currently an industrial park with principally one major tenant, Seibert Powder Coatings, Inc. (Seibert)

SITE HISTORY

Available historic information sources for the 11001 Madison Avenue location include the 1792, 1867 and 1876 Cleveland City street maps (Robison, et al, 1876); the 1896, 1912-1913 and 1951 Sanborn insurance maps (Sanborn, various years); the 1903 USGS topographic map (USGS, 1903); the Cleveland City Directories from 1837- 1838 through 1974 (CDC, various years); aerial photos from 1949 and 1950 through 2002 (ODOT, various years); and the Cuyahoga County Auditor's Office (CCAO, 2002). (See Attachment Two, Metals Refining Co. Site History.) The first and last known records of the Metals Refining Co. activities were from circa 1931 through circa 1948, which are assumed to be its years of operation. (Eckel, 2003 and CDC, various years

The oldest known information for the site area is the 1876 Cleveland City street map, which does not show this portion of Cleveland, implying that it was not developed yet (Robison, 1876). The 1903 and later Sanborn Fire Insurance maps show the site area (See Attachment Two, Figure 3). Historical information, aerial photography, real estate and tax records, and the yellow pages indicate that from 1912 to 1976 the Glidden Company (also known as SCM Corporation) operated as a paint and varnish manufacturing company at this address. The Metals Refining Co. (a division of the Glidden Company) is identified in the (1931 and 1948) Standard Metal Directory as a Manufacturer of Lead and Type Metals at 11001 Madison Avenue.

In 1976, the property was purchased by Not Responsive. Through a series of property transfers, the latter two individuals transferred the property to Not Responsive, and ultimately Berea Road West, Inc. Not Responsive in the period from 1991 to 1999. Beginning in 1976, the property was sectioned and leased intermittently to 33 different tenants. These tenants ranged from delivery services and food distributors to light manufacturing and welding and fabricating shops (Section 3.6, Phase I Report). In 1995 Seibert took over the property via a master lease agreement. In 1991 approximately 2 acres on the west side were sold to Kilbane. Based on site records, this 2 acre area is assumed to be a historic underground tank farm.

CURRENT SITE CONDITIONS

The property is currently a powder coating manufacturing and packaging line, and a liquid coating operation. Raw material sand solvents are blended into coatings which are packaged and warehoused on the property. The solvent based coating operation is run by NPA Coatings, a subsidiary of Seibert. (Phase I Site Assessment, Environmental Strategies, Inc. 2001). The majority of the site is paved and/ or consists of industrial buildings. The Phase I identified three areas of concern unrelated to the suspected lead smelter operations: underground tank farms located both on the property and on the Kilbane property; a pipe trench (currently under asphalt) constructed to feed the tank farm; and a retention tank (constructed to intercept product or solvent spills) that has deteriorated.

During a site walk through by Ohio EPA in December 2004, no evidence was found of the historic lead smelter operations. No documentation regarding a historic lead smelter has been presented in the 2001 Phase I Report.

SAMPLING & ANALYSES

XRF Sampling Results - Field Screening Investigation

To aid in a preliminary determination of whether or a lead or metals problem exists on and around this former secondary lead smelter, field screening samples were collected and analyzed using XRF technology. A total of fourteen (14) XRF soil samples were collected in the field: one sample during the December 17, 2002 reconnaissance, and thirteen samples during the June 9-11, 2003 field screening investigation. (See Figure Five, 1995 Air Photo with Sampling Locations. See also Table One.)

Only soil samples were collected, because no sediment was noted in the vicinty of the site. These samples were analyzed with an XRF instrument (Spectrace 9000) within a few days after sampling. These results allowed the investigation to focus on areas with possible elevated concentrations and to identify samples to be sent to a contract laboratory, Kemron Environmental Laboratory of Marietta, Ohio, for confirmation analysis.

Access for on-site sampling was sought, while Ohio EPA's Field Sampling Unit was in the field from June 9-11, 2003, but was refused. The Agency subsequently obtained access and conducted a site visit to the former Metals Refining Site on December 10, 2004. Prior permission for access was not sought on public property along the city streets, where the majority of the 2003 off-property sampling occurred. Permission was not requested from the adjoining property owner for 2182 W. 105th St., which was vacant, nor was access acquired at the vacant property lots, because they were "open fields".

Sample Collection Procedures

Only soil samples were collected, because there was no available sediment. Soil samples were collected and analyzed using DERR Field Standard Operating Procedures. All samples, both XRF screening and laboratory, were evaluated for the "RCRA-Eight" metals: arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver.

Sampling Priorities

Based on the levels detected in the December 2001 reconnaissance sample, Ohio EPA returned to the site on June 9 and 10, 2002 to collect more field screening samples. Samples were to be collected in all directions around the site. Exact sampling locations and numbers were decided in the field, based on accessibility and practicality. General priorities for the Lead Smelter Sites Initiative were to collect, if possible, the field screening samples to meet the following criteria:

1. At least three on-site samples (depending upon access);

2. Samples from immediately adjacent to the site;

3. Off-site samples from nearby or adjoining target areas: urban housing or residential; streams or drainageways; schools, daycare centers or playgrounds; exposed soil; etc.

4. Samples from airborne depositional areas predominantly downwind (northeast, east and southeast) of the site; and

5. Representative background soil samples from parks, roadway right-of-ways, open fields, woods, etc., that are predominantly upwind (due west) of the site.

Discussion of Sample Locations and Results

All sample results were compared to the U.S.EPA Region 9 Preliminary Remediation Goals (PRGs) for residential soils, the U.S.EPA Removal Action Levels for Residential and for Commercial/ Industrial Values and for comparison's sake, the Ohio EPA Voluntary Action Program (VAP) cleanup standards for Residential and for Commercial /Industrial Land Uses. The PRG values are considered to be conservative screening values, below which additional investigation is generally not warranted. They are not cleanup values, although they may conservatively be used as such (U.S.EPA PRGs, 2000).

Two samples were collected in proximity to the former Metals Refining Co. Facility in an open fields area near the intersection of Madison Avenue and Berea Road. These two samples, MR-1 (389 ppm lead), and MR-5 (700 ppm lead), were downwind of the remainder of the site. Five adjacent samples collected along Berea Road (MR-02, MR-03, and MR-04) and Madison Avenue (MR-06 and MR-07) contained lead ranging from 232 ppm at MR-04 to 1495 ppm at MR-06. (See Table One and Figure Five.) Lead results at three adjacent locations (1298 ppm at MR-02, 800 ppm at MR-07, and 1495 ppm at MR-06) surpassed the U.S.EPA Removal Action Levels for Commercial /Industrial Values and/or the U.S.EPA PRG value for Commercial /Industrial Values; it should be noted that MR-06 and MR-07 were in proximity to railroad tracks.

The remaining seven off-site sampling locations were in the residential/target neighborhood to the north and northwest (MR-08, MR-09, MR-10, MR-11, MR-11–DUP. and MR-12) and to the east (MR-13 and MR-14 and MR-14–LAB.) Except for MR-08 at 35 ppm and MR-10 at 134 ppm, the range of residential/ target lead results in analyses were near or above 400 ppm, varying from 391 ppm at MR-11 to 696 ppm at MR-14. Lead results at five of eight of these locations in residential areas exceeded either the U.S.EPA PRG value for residential soil or the Ohio EPA VAP standard for residential Land Use. Though these are XRF results rather than lab data, they did exceed any risk-based standard or level at these target locations. Analyses of sample MR-08 and MR-10 indicate background lead levels of 35 ppm and 134 ppm, respectively.

Confirmatory Lab Sample Results

Based on the XRF screening results, one sample (MR-14) was selected for lab analyses. MR-14 was selected because it was a high lead level for an off-site, residential, target location. This sample was handled according to DERR FSOPs and was designated MR-14–LAB. The sample was sent to Kemron on August 21, 2003. (See Table One.) The MR-14–LAB analytical data compared adequately with MM-07 XRF results. Like MR-14, the analytical data for MR-14–LAB (544 ppm) did exceed the U.S.EPA PRG value for residential soil.

EXPOSURE PATHWAYS AND TARGETS

Soil Exposure Pathway and Targets

According to the USDA Cuyahoga County Soil Survey, the soil around and under the site is of the Urban Land Association. This soil Association is described as, "Nearly level and gently sloping areas that are predominantly covered by buildings, structures, concrete, asphalt, and other impervious surfaces and other soil-forming processes require time to differentiate horizons in parent material." (USDA, 1980). Prior to urbanization, the soil around and under the site was most likely the Urban Land-Mahoning Association. The urban version of this Association is

described as, "Urban land and undulating, somewhat poorly drained soils that formed in silty and loamy glacial till; on uplands and lake plains." (USDA, 1980).

No soil pathway targets were identified. The site is mostly paved and constructed, and the soil available for exposure is minimal. The potential for current industrial workers on the property to be impacted by any historic suspected lead smelter is therefore limited. Access to the property is restricted by a maintained chain-link fence. One gate along Berea Road allows access to the entire site and there is a guard at the gatehouse. Since the entire site is fenced, access is controlled and generally the soil is not available for exposure. The potential for exposure to lead contaminated soil to off-property individuals is minimal.

The nearest known school is located about 0.26 miles northwest from the site. There are no known on-site or adjacent terrestrial sensitive environments. (See Attachment Three, Population Information map and its attached table; Ohio EPA-GIS, 2003).

Surface Water Pathway and Targets

The entire county is drained principally by the Cuyahoga, the Chagrin, and the Rocky Rivers and their tributaries into Lake Erie. Any surface water runoff from any of the property would be captured by combined sewer overflows. The site is within 0.85 mile of the Lake Erie. (ODOT, 1961 and USGS, 1980).

14 community public water supplies (PWSs) use Lake Erie as a surface water source or purchase surface water from a Lake Erie source within a fifteen-mile radius of the 11001 Madison Avenue site (see Attachment Four, Public Water Supply map and its attached table). These 14 PWSs serve 1,533,499 people. The nearest user is 1.8087 miles from the site. (Ohio EPA–GIS, 2002).

There are 42 aquatic and terrestrial sensitive environments within a fifteen-miles radius of the site (see Attachment Five, Natural Heritage Data map and its attached table. Ohio EPA-GIS, 2002). Based on this distance and the lack of perennial stream connection to the targets, the site is not suspected to impact the PWSs nor the sensitive environments. However, these PWSs and sensitive environments are within the 15-mile-downstream target distance limit.

Ground Water Pathway and Targets

Cuyahoga County is in two physiographic provinces: the glaciated Allegheny Plateau (Southern New York section) of the Appalachian Plateaus Province on the south and east, and the Eastern Lake and Till Plains sections of the Central Lowland Province on the west and north. The line of demarcation between the two provinces is the Portage Escarpment, which crosses the county diagonally in approximately a northeast-southwest line (USDA, 1980).

Nearly all of Cuyahoga County is mantled by material of glacial or glacially-related origin. Till (Wisconsinan age) is the most abundant glacial deposit in the county. Till, by definition, is deposited directly by glacial ice and is typically a poorly sorted mixture of clay, silt, sand, and gravel (ODNR–DOW, 1994). The bedrock underlying the glacial deposits is sandstone and shale (USDA, 1980).

The hydrogeologic setting beneath all the sites was described by the 1994 ODNR Ground Water Pollution Potential of Cuyahoga County, Ohio as a Glacial Lake Deposits. It is

"characterized by flat topography and varying thicknesses of fine-grained sediments that overlie sequences of fractured sedimentary rocks. the deposits are composed of fine-grained silts and days interlayered with fine sand that settled out in glacial lakes and exhibit alternating layers relating to seasonal fluctuations. As a consequence of the thin alternating layers there is a substantial difference between the vertical and horizontal permeability with the horizontal commonly two or more orders of magnitude greater than the vertical. Due to their fine-grained nature, these deposits typically weather to organic-rich sandy barns with a range in permeabilities reflecting variations in sand content. Underlying glacial deposits or bedrock serve as the major source of ground water in the region. Although precipitation is abundant, recharge is controlled by the permeability of the surface clays. Water levels are variable, depending on the thickness of the lake sediments and the underlying materials.." (ODNR–DOW, 1994).

There are no known private residential drinking water wells within one mile of the site. Based on a 1993 ODNR Well Log #768792, the nearest known well to the site is a monitoring well located roughly 0.37 mile east of the site. This monitoring well was at a B.P. Oil Co. station at the intersection of Madison Avenue and West Boulevard. The stratigraphy for the well demonstrates subsurface glacial material (clay and sand) above the bedrock (shale). The 1994 Pollution Potential map and report also located a glacial lake deposit under the site area (ODNR, Well Log,1993 and ODNR–DOW, 1994).

00 - 07' = Gry. (grey) Clay
07 - 12' = Brn. (brown) Clay
12 - 13' = Gry. (grey) Shale
Water encountered at = N.A.
Depth of casing = 3 feet
Pumping rate = N.A.
Casing diameter = 4 inches

Due to the presence of Lake Erie as an abundant, dependable water source, there are no ground water targets. No known public water supplies (community nor non-community) utilizing ground water are located within four miles of the site (see Attachment Four map and its attached table (Ohio EPA–GIS, 2002)).

Air Pathway and Targets

The site is an industrial operation, currently, and should be meeting applicable standards to protect current workers. It is unknown if the air pathway was a concern historically due to manufacturing operations. Since the majority of the surface of the site is currently asphalted or under buildings, there is little exposure to surface soil particulates from any historic suspected lead smelter operations.

A total of 238,365 people live within a four-mile radius of the site. Of these, 27,821 people reside within a one-mail radius and 957 people reside within a quarter-mile radius of the site (Ohio EPA–GIS, 2002).

There are no known aquatic or terrestrial sensitive environments on the site. There is one known sensitive environment within a three-mile radius of the site: the terrestrial sensitive environment of a State Endangered species, *Monarda punctata* (Dotted Horsemint) is located 2.9 miles west of the site (See "ID # 1" on the Attachment Five map and in its corresponding

table (Ohio EPA–GIS, 2002). Based on this distance between the site and sensitive environment targets, the site cannot impact these targets.

CONCLUSIONS

The historical information (City Directories and Sanborn maps and Eckel's assertion) gathered indicates that there may have been a lead melting operation at 11001 Madison Avenue (Building #5, Melting House; possible melting operations during paint manufacturing activities). However, no definitive evidence was collected either during the site visit or on reviewing the (2001) Phase I that a battery lead smelter existed at this location.

The on-property surface soil of the former Metals Refining site is largely under asphalt or buildings. Analyses of exposed off-site soil at the adjacent sampling locations showed lead at levels above the U.S.EPA PRG value for industrial/commercial soil. Analyses of soil in two residential areas showed several samples with lead levels above the U.S.EPA PRG value for residential soil. However, given the area and potential multiplicity of other sources for lead, these data could not be definitively tied to the site. Exposure to potential targets from site-related lead contamination through the soil or air pathway is therefore minimal. No complete surface water or ground water exposure pathways or targets related to any suspected lead smelting operations were identified.

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LIST OF
FIGURES, TABLES and ATTACHMENTS

Figure One = Site Location Map

Figure Two = 2002 Color Air Photo

Figure Three = Sanborn Maps

Figure Four = 1950 Air Photo

Figure Five = 1995 Air Photo with Proposed Sample Locations

Table One = Field Screening Sampling Results – Surface Soil -- XRF Metals

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Attachment One = Photographic Log

Attachment Two = Site History

Attachment Three = Population Information (map and its attached table)

Attachment Four = Public Water Supply (map and its attached table)

Attachment Five = Natural Heritage Data (map and its attached table)

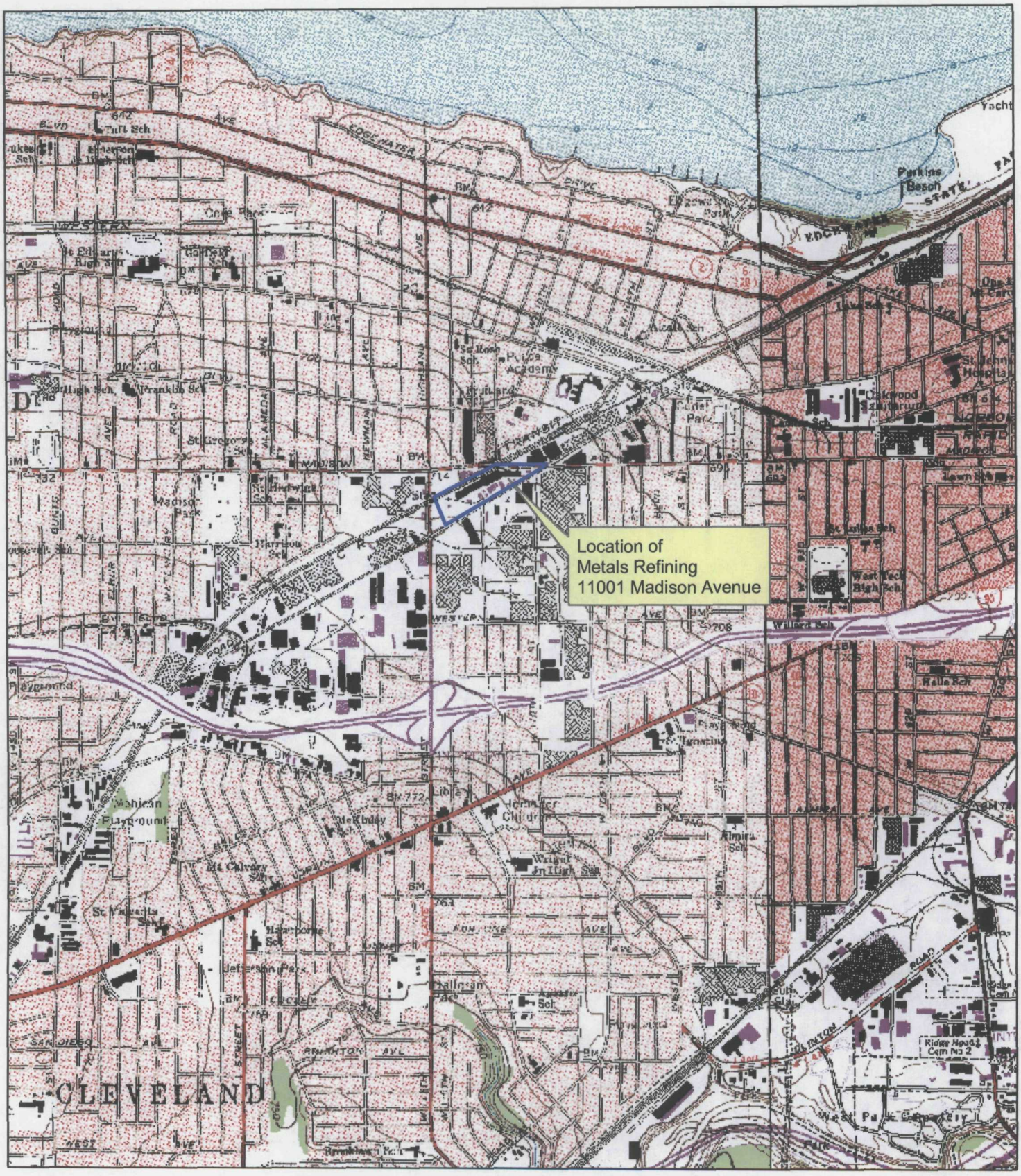
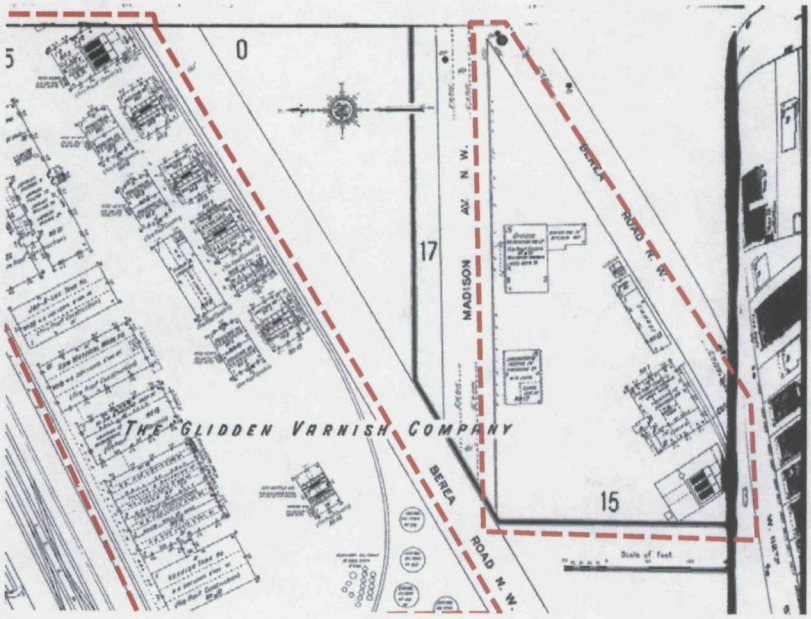
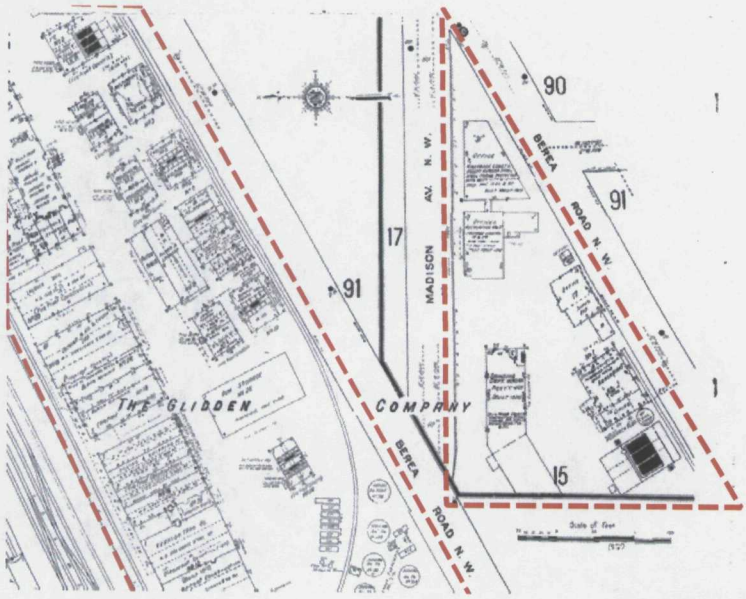


Figure One:
Site Location Map of Metals Refining Co.

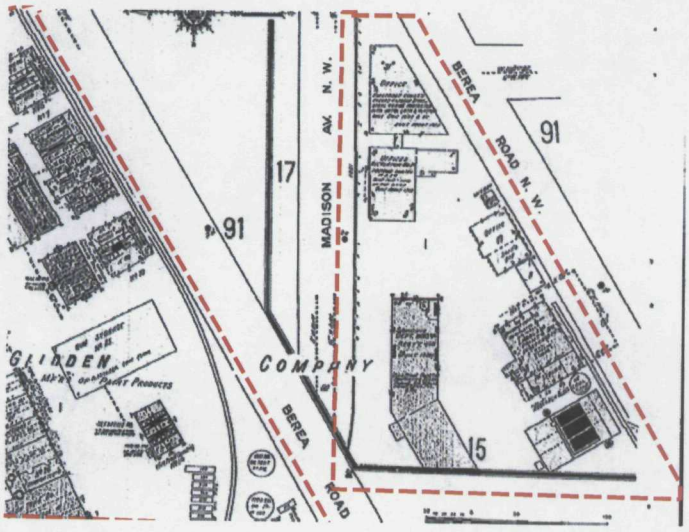
Figure 2:
2002 Color Air Photo for
Metals Refining Co. (Glidden Co.)



1912-1913 Sanborn Map



1912-1951 Sanborn Map



1912-1953 Sanborn Map

Figure 3: Sanborn Maps for Metals Refining Co.

Figure 4: 1950

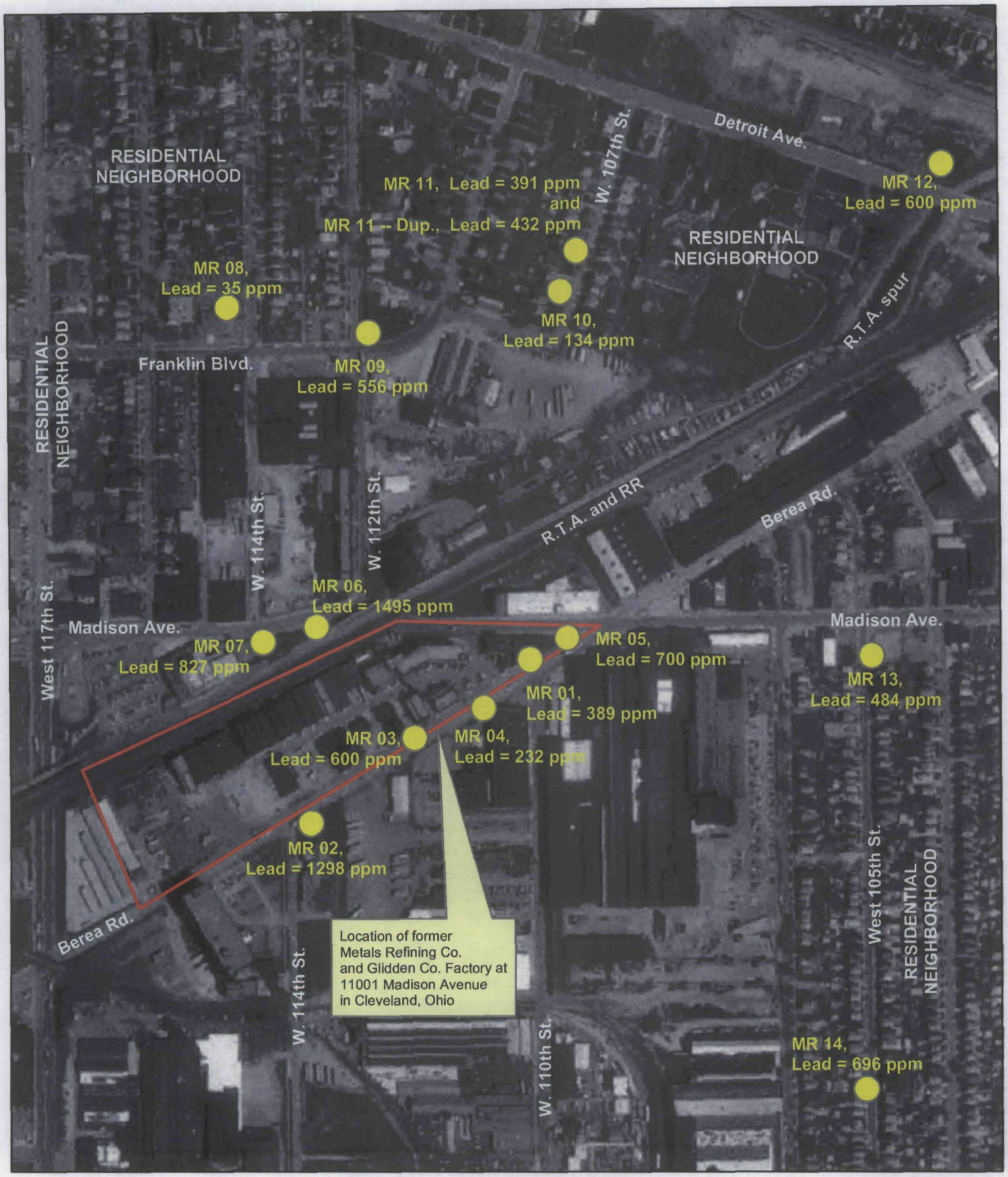


Figure Five: Metals Refining Co. -- 1995 Air Photo with Sampling Locations

Lead Smelter Sites in Cleveland
Pre-CERCLIS Screenings
December 17, 2002 Recon.
and June 9-11 Screening Inv.

Table 1: Metals Refining --
XRF Field Screening and Lab Sampling Results - Soil

SITE NAME = =>	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING
SITE ADDRESS = =>	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.
SAMPLE LOCATION = =>	ON-Site; NE corner Berea; NE @ 110th	Off-Site; S. of Site; Berea; SE @ 114th	Off-Site; S. of Site; Berea Rd.; across chimney	Off-Site; S. of Site; Berea; SW @ 110th	ON-Site; NE corner Berea; NW @ Madison	Off-Site; N. of Site; Madison; SW @ RTA	Off-Site; N. of Site; Madison; SE @ 114th	Off-Site; N. of Site; School @ Franklin & 114th	Off-Site; N. of Site; NW of Franklin @ 112th	Off-Site; NE. of Site; Tree @ 1452 E. 107th	Off-Site; NE. of Site; Tree @ 1440 E. 107th	Off-Site; NE. of Site; Tree @ 1440 E. 107th
SAMPLE ID # = =>	MR - 1	MR - 2	MR - 3	MR - 4	MR - 5	MR - 6	MR - 7	MR - 8	MR - 9	MR - 10	MR - 11	MR - 11 -- DUP
DATE = =>	Dec. 17, 2002	06/11/03, 12:50	06/11/03, 12:45	06/11/03, 13:00	06/11/03, 13:10	06/11/03, 13:25	06/11/03, 13:40	06/11/03, 13:45	06/11/03, 14:00	06/11/03, 14:10	06/11/03, 14:15	06/11/03, 14:15
QA / QC INFO = =>	-----	-----	-----	-----	-----	-----	-----	School	Res. / Comm.	Residential	Residential	REPLICATE
XRF ANALYTE		PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg
potassium (K)	16640	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
calcium (Ca)	11260	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
titanium (Ti)	4020	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
chromium (Cr)*	ND	370 210	ND	ND	380 / 197	ND	240 / 210	ND	ND	ND	270 / 183	180 / 151
manganese (Mn)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
iron (Fe)	40940	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
cobalt (Co)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
nickel (Ni)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
copper (Cu)	248 / 29	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
zinc (Zn)	415	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
arsenic (As)*	68 / 16	ND	31 / 22.5	31 / 15	45 / 23	ND	78 / 26	23 / 10	56 / 22	60 / 14	32 / 18	29 / 18
selenium (Se)*	ND	ND	12.4 / 9.9	ND	ND	ND	ND	ND	ND	19 / 8	ND	ND
strontium (Sr)	150	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
zirconium (Zr)	254	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
molydenum(Mo)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
mercury (Hg)*	ND	ND	32 / 22	32 / 20	ND	ND	ND	ND	ND	ND	ND	ND
lead (Pb)*	389	1298	600	232	700	1495	827	35	556	134	391	381 / 21
rubidium (Rb)	134	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
cadium (Cd)*	ND	ND	ND	ND	ND	ND	ND	ND	ND	59	ND	ND
tin (Sn)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
antimony (Sb)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
barium (Ba)*	734	474	646	658	674	700	490	471	535	504	431	432
silver (Ag)*	ND	ND	145 / 36	101 / 33	45 / 32	110 / 37	ND	45 / 30	150 / 36	130 / 31	61 / 29	49 / 29
uranium (U)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
thorium (Th)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
aluminum (Al)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----

NOTES: "74 / 40.8" = First number (74) is the result / Second number (40.8) is the standard deviation

ND = Non-Detect; **C** = Carcinogenic; **NC** = Carcinogenic

----- = Below significant detection limits of XRF; or, not analyzed for.

= Region IX PRGs for Residential Soil; Cancer Risk or Chronic HQ

= Nearest available county with data is Medina County

* = "RCRA-Eight" metals = arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

** = Mercury was not analyzed by the lab, because XRF samples exceeded the 28-day holding time before they were sent to Kemron.

Lead Smelter Sites in Cleveland
Pre-CERCLIS Screenings
December 17, 2002 Recon.
and June 9-11 Screening Inv.

Table 1: Metals Refining --
XRF Field Screening and Lab Sampling Results - Soil

SITE NAME = =>	METALS REFINING	METALS REFINING	METALS REFINING	METALS REFINING									
SITE ADDRESS = =>	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.	11001 Madison Ave.				USEPA	USEPA				
SAMPLE LOCATION = =>	Off-Site; NE. of Site; Detroit; NW @ RTA spur	Off-Site; NE. of Site; Madison; SE @ 105th	Off-Site; E. of Site; front of 2182 W. 105th	Off-Site; E. of Site; front of 2182 W. 105th				P.R.G.# Values	P.R.G.# Values	USEPA R.A.L.s for	USEPA R.A.L.s	V.A.P. Standards for	V.A.P. Standards for
SAMPLE ID # = =>	MR - 12	MR - 13	MR - 14	MR-14 -- LAB	BLANK #1	BLANK #2	BLANK #3	for	for	Commercial /	for	Commercial /	for
DATE = =>	06/11/03, 14:20	06/11/03, 14:35	06/11/03, 14:45	06/11/03, 14:45	6/23/2003	7/2/2003	7/15/2003	*Industrial*	*Residential*	*Industrial*	*Residential*	*Industrial*	*Residential*
QA / QC INFO = =>	Residential	Residential	Residential	LAB RESULTS	CALIBRATION	CALIBRATION	CALIBRATION	Soil	Soil	Values; 1997	Values; 1997	Land Use	Land Use
XRF ANALYTE	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg	PPM or mg/kg
potassium (K)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
calcium (Ca)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
titanium (Ti)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
chromium (Cr)*	ND	ND	410 / 200	84.2	-----	-----	-----	450 (total)	210 (total)	1000000	780000	1000000 (III)	120000
manganese (Mn)	-----	-----	-----	-----	0.002	0.002	0.003	32000	1800	470000	18000	-----	-----
iron (Fe)	-----	-----	-----	-----	1.007	0.996	1.00O	100000	23000	1000000	230000	-----	-----
cobalt (Co)	-----	-----	-----	-----	0.004	0.002	0.003	100000	4700	1000000	47000	40000	1400
nickel (Ni)	-----	-----	-----	-----	-----	-----	-----	41000	1600	410000	16000	57000	1500
copper (Cu)	-----	-----	-----	-----	-----	-----	-----	76000	2900	820000	31000	-----	-----
zinc (Zn)	-----	-----	-----	-----	-----	-----	-----	100000	23000	1000000	230000	900000	23000
arsenic (As)*	35 / 14	16 / 13	44 / 22	17.O	-----	-----	-----	440-NC or 2.7-C	22-NC or 39-C	380-C or 6100-NC	43-C or 230-NC	80	6.8
selenium (Se)*	10.2 / 9.2	ND	19.7 / 9.8	1.77 J	-----	-----	-----	10000	390	100000	3900	15000	390
strontium (Sr)	-----	-----	-----	-----	-----	-----	-----	100000	47000	1000000	470000	-----	-----
zirconium (Zr)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
molydenum(Mo)	-----	-----	-----	-----	-----	-----	-----	10000	390	100000	3900	-----	-----
mercury (Hg)*	40 / 21	29 / 19	ND	-----**	-----	-----	-----	610	23	6100	230	300	7.8
lead (Pb)*	132	178	636	544	-----	-----	-----	750	400	500-1000	-----	1800	400
rubidium (Rb)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
cadium (Cd)*	ND	ND	ND	5.41	-----	-----	-----	810	37	10000	390	770	35
tin (Sn)	-----	-----	-----	-----	-----	-----	-----	100000	47000	1000000	470000	-----	-----
antimony (Sb)	-----	-----	-----	-----	-----	-----	-----	820	31	8200	310	1200	31
barium (Ba)*	600	484	696	275	-----	-----	-----	100000	5400	1000000	55000	200000	5400
silver (Ag)*	67 / 32	56 / 29	36 / 31	1.91	-----	-----	-----	10000	390	100000	3900	15000	390
uranium (U)	-----	-----	-----	-----	-----	-----	-----	410	16	61000	2300	-----	-----
thorium (Th)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
aluminum (Al)	-----	-----	-----	11400	-----	-----	-----	6	76000	1000000	780000	1000000	75000

NOTES: "74 / 40.8" = First number (74) is the result / Second number (40.8) is the standard deviation

ND = Non-Detect; **C** = Carcinogenic; **NC** = Carcinogenic

----- = Below significant detection limits of XRF; or, not analyzed for.

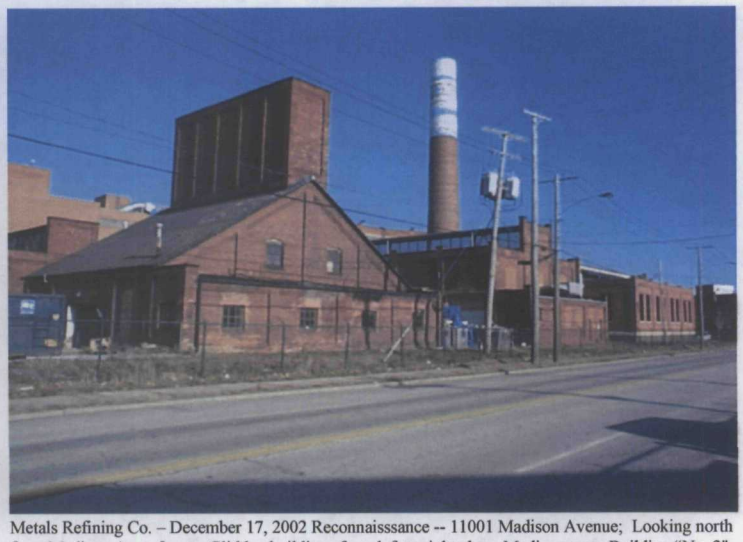
= Region IX PRGs for Residential Soil; Cancer Risk or Chronic HQ

= Nearest available county with data is Medina County

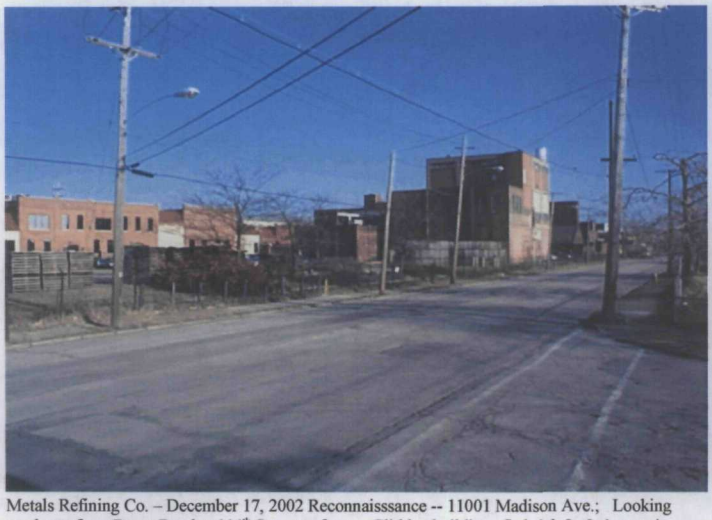
* = "RCRA-Eight" metals = arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver.

** = Mercury was not analyzed by the lab, because XRF samples exceeded the 28-day holding time before they were sent to Kemron.

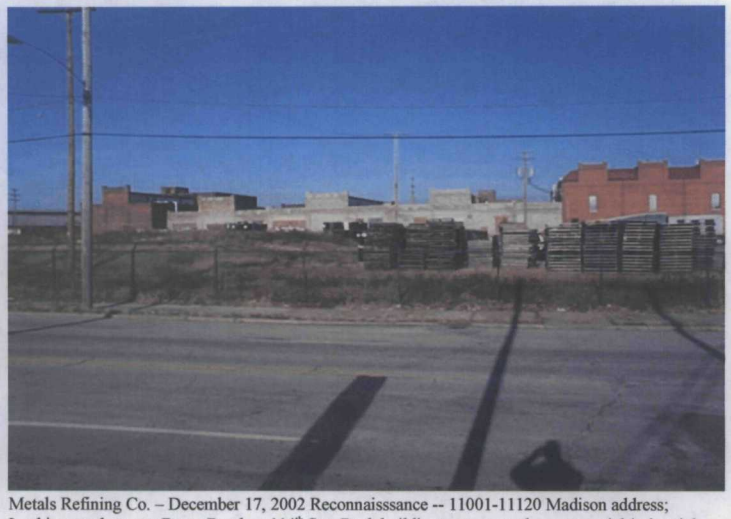
Metals Refining Co. – December 17, 2002 Reconnaisssance -- 11001 Madison Avenue; Entrance gate to 11001 - 11120 Madison Avenue; former Metals Refining building is in right center of photo; Note sign of current RENTER, "Seibert Power Coatings"; Looking northwest from Madison Ave.



Metals Refining Co. – December 17, 2002 Reconnaisssance -- 11001 Madison Avenue; Looking north from Madison Ave.; former Glidden buildings from left to right along Madison are: ; Building "No. 3" with "Melting Ho. (house) #1 & #2; Building "No. 2" was "Printing, Storage & Lining"; Building "No. 1" was power plant; XRF Sample **MR-03**



Metals Refining Co. – December 17, 2002 Reconnaisssance -- 11001 Madison Ave.; Looking northeast from Berea Road at 114th Street;; former Glidden buildings fis brick 3- & 4-story in center of photo along Madison; behind it from left to right are roughly former Glidden Buildings No.18, 28 & 20; XRF Sample **MR-02**



Metals Refining Co. – December 17, 2002 Reconnaisssance -- 11001-11120 Madison address; Looking north across Berea Road at 114th St.; Back buildings are currently commercial-industrial buildings were roughly former Glidden Buildings No.15, 27, 24, 12 26 & 16 ; former Glidden Buildings No. 14 & 25 wasremoved, but located about where grass mound where pallets are piled.

Metals Refining Co. – December 17, 2002 Reconnaisssance -- 11001 Madison Ave.; Looking southwest along Berea Rd; former Glidden Building No. 1 is brick building in right center of photo

Metals Refining Co. – December 17, 2002 Reconnaisssance; Midland Steel on Berea Road which was formerly Meriam Instrument Co. Manometers Mfg; across street from 11001 Madison Avenue; Looking southest from 11001 Madison at intersection of Berea & 110th Street

Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking west from Madison Ave. near W. 112th; former Glidden tank yard and Building No. 25 was in the area with green grass; XRF Sample **MR-02**

Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking west from Madison Ave. near W. 112th; former Glidden property was in the area with green grass and brick buildings

Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking southwest from intersection of Madison (right) &Berea (left); former Glidden brick, office building (center of photo); former office building was in green grass area; XRF sample **MR-01** in lft center; **MR-05** in bottom right

Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking north from Madison Ave.; former Glidden buildings from left to right along Madison are: ; Building "No. 3" with "Melting Ho. (house) #1 & #2; Building "No. 2" was "Printing, Storage & Lining"; Building "No. 1" was power plant; XRF Sample **MR-03**

Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking northwest from Madison Ave.; former Glidden brick building in center of photo is Building No. 6

Metals Refining Co. – June 9-11 Sampling Investigation – 11001 Madison Ave.; Looking north from Madison Ave.; former Glidden brick buildings along Madison from left to right are Buildings No. 9/8/7, 3 $ 2; XRF Sample **MR-03**

Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.: Looking south along W. 112th St. near Franklin Blvd.; note former Glidden smokestack (blue and white in center left)

Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.; Looking south from intersection of Madison (bottom third) & W. 114th St.; note former Glidden smokestack just to left of top of "STOP" sign; XRF Sample **MR-07** collected across street

Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.; Looking southeast from intersection of Madison (bottomleft) & W. 114th St. (bottom right); Note former Glidden brick building in center left; XRF Sample **MR-06** collected across street

Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.; Looking southeast from intersection of Madison (bottom right) & W. 114th St.; note former Glidden smokestack in center left of photo

Refining Co. – June 9-11 Sampling Investigation – Madison Ave.: Looking south along W. 112th St. near Franklin Blvd.; note former Glidden smokestack (blue and white in center); XRF Sample **MR-10** near fire hydrant (bottom left)

Metals Refining Co. – June 9-11 Sampling Investigation – Madison Ave.: Looking west from W. 114th St. near Franklin Blvd. at school; XRF Sample **MR-08**

Attachment Two,
Metals Refining Co. Site History

Metals Refining Co. -- Battery Lead Smelters
11001 Madison Avenue;
Cleveland, Ohio 44102
=-=-=-=-=-=-=-=-=

Source = Cleveland Directories, 1852-1974
Source = SANBORN Maps, 1867-1970
Source = Cuyahoga County Auditor , 2002-3
Source = Yellow Pages from http://yp.mapquest.com or http://yp.yahoo.com; 2002-3
Source = 1931 Standard Metal Directory, from Eckel 2003
Source = 1948 Standard Metal Directory
=-=-=-=-=-=-=-=-=

1837-8, 1846-9, 1852-3, 1864-5, 1872-3, 1881, 1896, 1902-3 & 1908
Cleveland Directories -- **Metals Refining Co.** -- NOT MENTIONED

1886? --**The Glidden Varnish Co.** -- company was founded according to "Cleveland: The Making of a City" by William Ganson Rose; published by the World Publishing Co. in *Cleveland, Ohio; published in 1950; page 468.*

1856-75 Cleveland Directories – **Glidden Varnish Co.**
____ Woodland Ave.; Cleveland, OH
Not Responsive bought Forest City W.L.W. in 1875
"Mixing paints & varnishes"
"Enamels"
"Jap-a-lac" brand-name

1912-13 SANBORN MAP -- **Metals Refining Co.** -- NOT MENTIONED
(published in 1913) -- SANBORN MAPS

The Glidden Co.
11001 Madison Avenue -- ADDRESS VERIFIED, BUT NOT COMPANY ADDRESS

1916 & 1917 *Cleveland Directories* -- **Metals Refining Co.** -- NOT MENTIONED

1928 Cleveland Directory -- **Metals Refining Co.** -- NOT MENTIONED

The Glidden Co.
11001 Madison Avenue
F. (Frances) H. Glidden = President
Glidden Varnish Co.; 2239 E. 55th St., SE

1930 & 1932 Cleveland Directories -- **Metals Refining Co.** -- NOT MENTIONED

1931 Standard Metal Directory --**Metals Refining Co.** -- 11001 Madison Avenue
"Battery Lead Smelters"

1939 *Cleveland Directory* -- **Metals Refining Co.** -- NOT MENTIONED

The Glidden Co.
11001 Madison Avenue

1939 to 1942 – Metals Refining Co. was founded sometime during this time period?

1942 & 1948 Cleveland Directories -- **Metals Refining Co.** -- COMPANY NAME VERIFIED
[COMPANY NAME WAS VERIFIED, BUT AT A DIFFERENT LOCATION]
1396 Union Commerce Bldg. @ 925-927 Euclid Ave.
[Union Trust Bldg. opened in 1924; later renamed Union Commerce Bldg.]
"Manufacturers of Lead and Type Metals"

The Glidden Co.
11001 Madison Avenue

1948 Standard Metal Directory -- **Metals Refining Co.**

The Glidden Co. *and* ***Glidden Co., The***
"Union Commerce Bldg."; Cleveland, Ohio
"Gliden Co., Madison Ave. & Berea Rd."
"Divisional Operations: **Metals Refining Co.**, Div., Hammond, Ind., and Chemical & Pigment Co., Cleveland."
Plants: Baltimore, Md.; Collinsville. Illinois.; Oakland. Cal.
John P. Ruth, Gen. Mgr.;
R. B. Quelos, Gen. Sales Mgr.;
G. M. Halsey, Mgr., Baltimore Plant;
W. K. Kelley, Mgr., Collinsville Plant;
E.L. Ralston, Mgr., Oakland Plant.
"PRODUCTS: Paint & varnish, paint pigments, metal powders, type metal, antimonial lead, litharge, red lead, food & vegetable oil products"
["Litharge = an oxide of lead .... used in storage batteries, ceramic cements, paints, etc." (Webster, 1988.)]
"PRODUCTS: Lithopone, titanium oxide, cadmium, Red & Yellow Lithopones."
["Lithopone = a white pigment made by mixing barium sulfate with zinc sulfide, used in paints, linoleum, etc." (Webster, 1988.)]
"Metals Smelters and Refiners"
"Metal Powder Producers & Sellers"

Metals Refining Co. – Hammond, Ind.
Lead Brands = "MRCO (Antimonial)"
"Divison of the Glidden Co."
"Battery Lead Smelters"
"Babbitt & Solder Mfrs."
"Metal Powder Producers & Sellers"

1949 to 1953 -- Metals Refining Co. ceased operations or were sold?

1953, 1956, 1958 & 1961 Cleveland Directories -- **Metals Refining Co.** -- NOT MENTIONED

The Glidden Co.
"Offices"
11001 Madison Avenue
"Paint Manufacturers"

1383-1396 Union Commerce Bldg. @ 925-927 Euclid Ave. = The Glidden Co.
"Paint Manufacturers, Office"

1966, 1968 & 1974 Cleveland Directories -- **Metals Refining Co.** -- NOT MENTIONED

The Glidden Co.
900 **Union Commerce Bldg**. @ 925-927 Euclid Ave. **and**
11001 Madison Ave. = "Factory" (1966 & 1968)
"Offices"; Phone # = 961-8300
Not Responsive = "Varnish Products"

THE MADISON AVE. BLOCK in 1968:
Berea Road intersects Madison Ave. == >
10920 Madison Avenue (north side of street) = Meriam Inst. Co. == >
11001 Madison Avenue (south side of street) = Glidden == >
[Conrail and Rapid Transit rail lines] == >
W. 112th St. (north side of street) intersects Madison Ave.

=-=-=-=-=-=-=-=-=

CURRENT PROPERTY OWNERS (Source = Cuyahoga County Auditor):
Metals Refining Co.
11001 Madison Avenue; Cleveland, Ohio 44102-____
Parcel # = 005-01-003; 8.8 acres = 11110 Berea Road, NW
Current = **Berea Road West, Inc**. = 11110 Berea Road, NW
Berea Road West, Inc. = ?

Date Transferred = **09/24/99**; Industrial = 11110 Berea Road, NW
Recent Past Owner = Not = 11110 Berea Road, NW

Not Responsive

=-=-=-=-=-=-=-=-=

Glidden Comp. (Company)
16651 Sprague Rd.; Strongsville, OH 44136
Parcel # = 395-09-003; Lot Size = 631,184 ft² or 14.49 acres
Date Transferred = **01/01/00**; Industrial

Glidden Co. [Source = http://yp.yahoo.com (Yellow Pages)]
Glidden Paint (a subsidiary of Imperial Chemical Industries)
900 (Union Commerce Bldg.) @ 925 Euclid Ave., Cleveland, OH 44115
[Same address since at least 1966]
Phone: (216) 344-8000

=-=-=-=-=-=-=-=-=

Not Responsive

Attachment 3:
Population Information for
Metals Refining Co.

RADIUS	TOTAL	WHITE	BLACK	INDIAN	ASIAN	HAWAII_PAC	OTHER	HOUSING
3.00 - 4.00	70302	56410	6356	262	975	18	6281	29501
2.00 - 3.00	73194	57189	7446	313	788	54	7403	29738
1.00 - 2.00	67048	53883	5467	254	1230	20	6193	29009
0.50 - 1.00	22274	17001	2429	99	674	18	2053	9811
0.25 - 0.50	4590	3348	584	35	196	4	423	2045
0.00 - 0.25	957	701	156	9	10	1	80	444
TOTALS	238365	188532	22438	972	3873	115	22433	100548

Note: 27,821 people within a one-mile radius of the site.

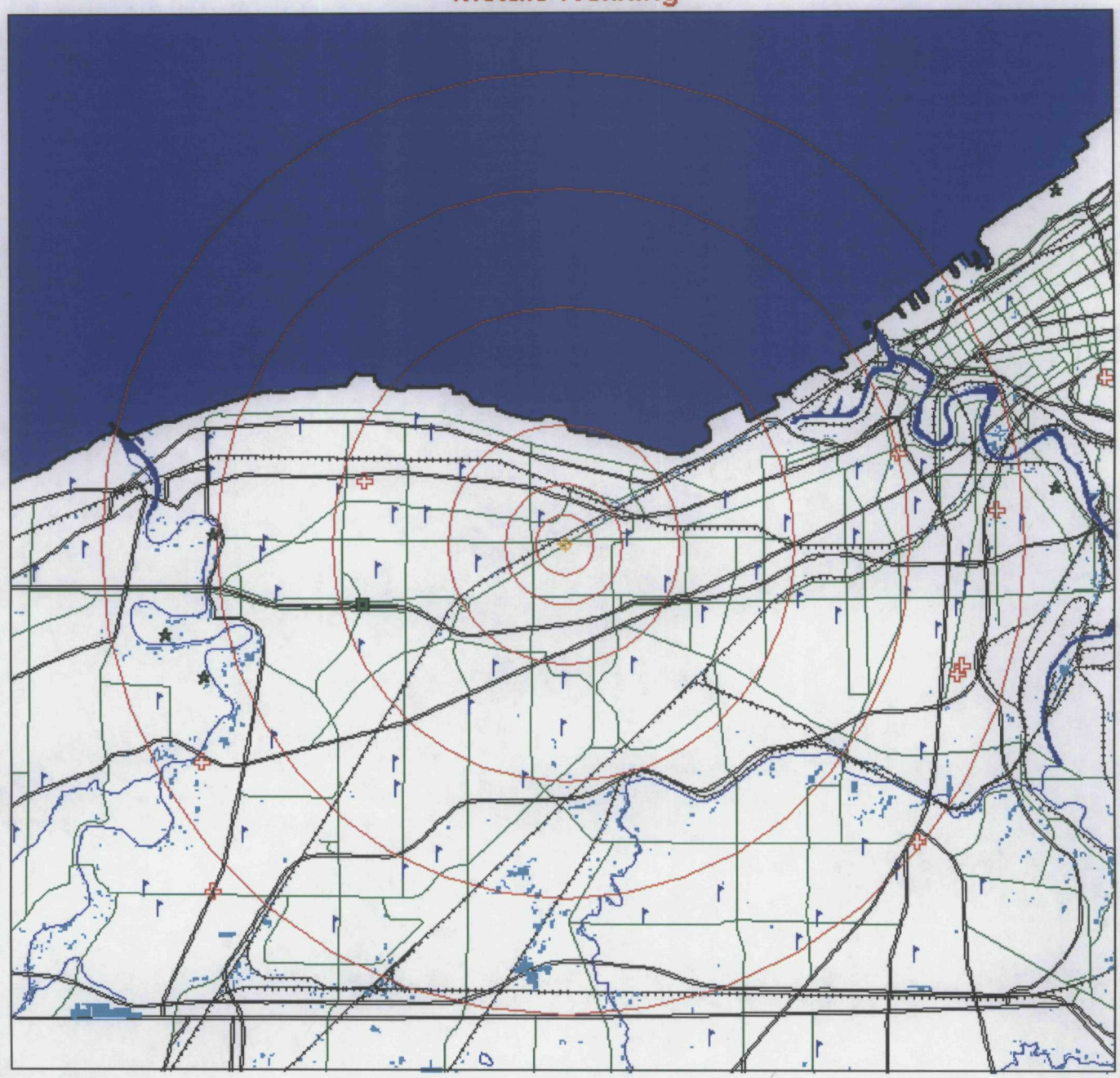
Ohio EPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

Cuyahoga County

Metals Refining



- Site
- School
- Hospital
- Public Surface Water Systems
- Public Ground Water Systems
- US Endangered/Threatened Species
- Ohio Endangered/Threatened Species
- Wetland Area
- Lakes & Ponds
- Wellhead Protection Area
- Limit of Radius From Site
- County Boundaries
- Rivers & Streams
- Railroad
- State and Federal Highways
- Local Roads
- Municipal Roads

N

2 0 2 Miles

Attachment 4:
Public Ground Water and
Surface Water Systems Information for
Metals Refining Co.

Public Surface Water Systems

ID_	PWS_ID	SYS_SOURCE	SYS_TYPE	NAME	ADDRESS	CITY	STATE	DISTANCE	POPULATION
1	1801003	Purchased Surface Water	Community	LAKEWOOD,CITY OF	12805 DETROIT AVENUE	LAKEWOOD	OH	1.8087	60000
2	1800311	Surface Water	Community	CLEVELAND,CITY OF-BALDWIN	11216 FAIRHILL BLVD.	CLEVELAND	OH	5.0746	424027
3	1800331	Surface Water	Community	CLEVELAND,CITY OF-MORGAN	1245 WEST 45TH STREET	CLEVELAND	OH	6.251	352888
4	1800321	Surface Water	Community	CLEVELAND,CITY OF-CROWN	955 CLAGUE ROAD	WESTLAKE	OH	6.6625	198665
5	1800111	Surface Water	Community	BEREA, CITY OF	11 BEREA COMMONS	BEREA	OH	9.0196	19056
6	1800503	Purchased Surface Water	Community	EAST CLEVELAND,CITY OF	14340 EUCLID AVENUE	EAST CLEVELAND	OH	9.8812	33096
7	1800403	Purchased Surface Water	Community	CLEVELAND HEIGHTS,CITY OF	40 SEVERENCE CIRCLE	CLEVELAND HEIGHTS	OH	9.8812	54000
8	1800341	Surface Water	Community	CLEVELAND,CITY OF-NOTTIN	1300 CHARDON ROAD	CLEVELAND	OH	12.6824	326846
9	1800003	Purchased Surface Water	Community	BEDFORD, CITY OF	65 COLUMBUS ROAD	BEDFORD	OH	13.4147	15000
10	4700311	Surface Water	Community	AVON LAKE, CITY OF	33370 LAKE ROAD	AVON LAKE	OH	14.5846	18121
11	4701803	Purchased Surface Water	Community	RURAL LORAIN CO. WATER AUTH.	42401 STATE ROUTE 303	LAGRANGE	OH	14.5846	45000
12	4701103	Purchased Surface Water	Community	SHEFFIELD LAKE, CITY OF	4750 RICHELIEU AVENUE	SHEFFIELD LAKE	OH	14.5846	9800
13	4700203	Purchased Surface Water	Community	AVON, CITY OF	35030 DETROIT RD	AVON	OH	14.5846	8000
14	4700803	Purchased Surface Water	Community	NORTH RIDGEVILLE, CITY OF	7307 AVON BELDEN ROAD	NORTH RIDGEVILLE	OH	14.6573	23000

Public Ground Water Systems

ID_	PWS_ID	SYS_TYPE	NAME	ADDRESS	CITY	STATE	DISTANCE	POPULATION
0	0	Non-Community/Non-Transier	NONE	NONE	NONE	NO	0	0

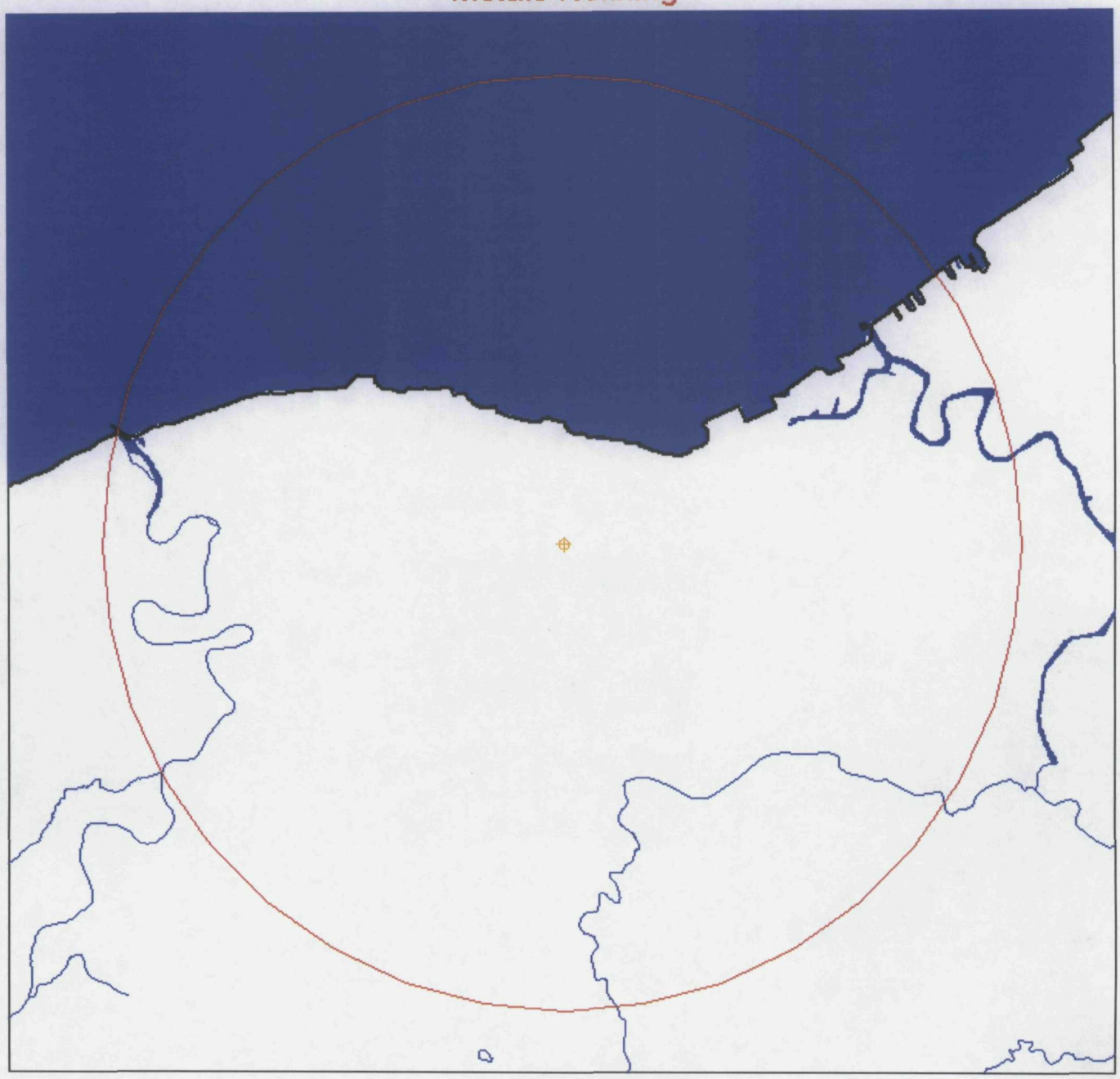
Ohio EPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 4-MILE RADIUS MAP

PUBLIC GROUND WATER SYSTEMS

Metals Refining



Site

Public Ground Water Systems
- Community
- Non-Community/Transient
- Non-Community/Non-Transient

Rivers & Streams
Wellhead Protection Area
Lakes & Ponds
Limit of Radius From Site
County Boundaries

1 0 1 Miles

N

Attachment 5:
Natural Heritage Data for
Metals Refining Co.

ID_	STATUS	DISTANCE	SCI_NAME	COM_NAME	ID_
1	State Endangered	2.9007	MONARDA PUNCTATA	DOTTED HORSEMINT	1
2	State Threatened	3.013	SAGITTARIA RIGIDA	DEER'S-TONGUE ARROWHEAD	2
3	State Threatened	3.2955	SAGITTARIA RIGIDA	DEER'S-TONGUE ARROWHEAD	3
4	State Endangered	3.5181	NYCTANASSA VIOLACEA	YELLOW-CROWNED NIGHT-HERON	4
5	State Threatened	4.3106	HIERACIUM CANADENSE	CANADA HAWKWEED	5
6	State Threatened	5.2247	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	6
7	State Threatened	7.2082	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	7
8	State Endangered	7.7991	THRYOMANES BEWICKII	BEWICK'S WREN	8
9	State Endangered	8.336	JUNIPERUS COMMUNIS	GROUND JUNIPER	9
10	State Threatened	9.0737	HIERACIUM CANADENSE	CANADA HAWKWEED	10
11	State Threatened	9.1415	NOTROPIS DORSALIS	BIGMOUTH SHINER	11
12	State Threatened	9.517	PRENANTHES CREPIDINEA	NODDING RATTLESNAKE-ROOT	12
13	State Threatened	9.5606	PRENANTHES CREPIDINEA	NODDING RATTLESNAKE-ROOT	13
14	State Threatened	10.2286	HIERACIUM CANADENSE	CANADA HAWKWEED	14
15	State Threatened	10.2662	CAREX PALLESCENS	PALE SEDGE	15
16	State Threatened	10.7983	NOTROPIS DORSALIS	BIGMOUTH SHINER	16
17	State Endangered	10.9087	CAREX LOUISIANICA	LOUISIANA SEDGE	17
18	State Threatened	11.0204	AMMOPHILA BREVILIGULATA	AMERICAN BEACH GRASS	18
19	State Threatened	11.432	NOTROPIS DORSALIS	BIGMOUTH SHINER	19
20	State Threatened	12.0475	ELYMUS TRACHYCAULUS	BEARDED WHEAT GRASS	20
21	State Threatened	12.0475	SOLIDAGO SQUARROSA	LEAFY GOLDENROD	21
22	State Threatened	12.099	CAREX ALBOLUTESCENS	PALE STRAW SEDGE	22
23	State Endangered	12.6895	JUNIPERUS COMMUNIS	GROUND JUNIPER	23
24	State Endangered	13.0371	JUNIPERUS COMMUNIS	GROUND JUNIPER	24
25	State Threatened	13.1546	SOLIDAGO SQUARROSA	LEAFY GOLDENROD	25
26	State Endangered	13.2345	JUNIPERUS COMMUNIS	GROUND JUNIPER	26
27	State Threatened	13.32	SOLIDAGO SQUARROSA	LEAFY GOLDENROD	27
28	State Endangered	13.6244	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	28
29	State Endangered	13.7822	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	29
30	State Threatened	13.7926	NOTROPIS DORSALIS	BIGMOUTH SHINER	30
31	State Threatened	13.8073	BARTRAMIA LONGICAUDA	UPLAND SANDPIPER	31
32	State Threatened	13.8255	NOTROPIS DORSALIS	BIGMOUTH SHINER	32
33	State Threatened	13.8929	LECHEA INTERMEDIA	ROUND-FRUITED PINWEED	33
34	State Endangered	13.9066	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	34
35	State Endangered	14.0471	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	35
36	State Endangered	14.1325	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	36
37	State Endangered	14.1705	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	37
38	State Endangered	14.4626	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	38
39	State Endangered	14.5083	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	39
40	State Endangered	14.6261	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	40
41	State Endangered	14.6425	ORYZOPSIS ASPERIFOLIA	LARGE-LEAVED MOUNTAIN-RICE	41
42	State Endangered	14.6804	SOLIDAGO PUBERULA	DUSTY GOLDENROD	42

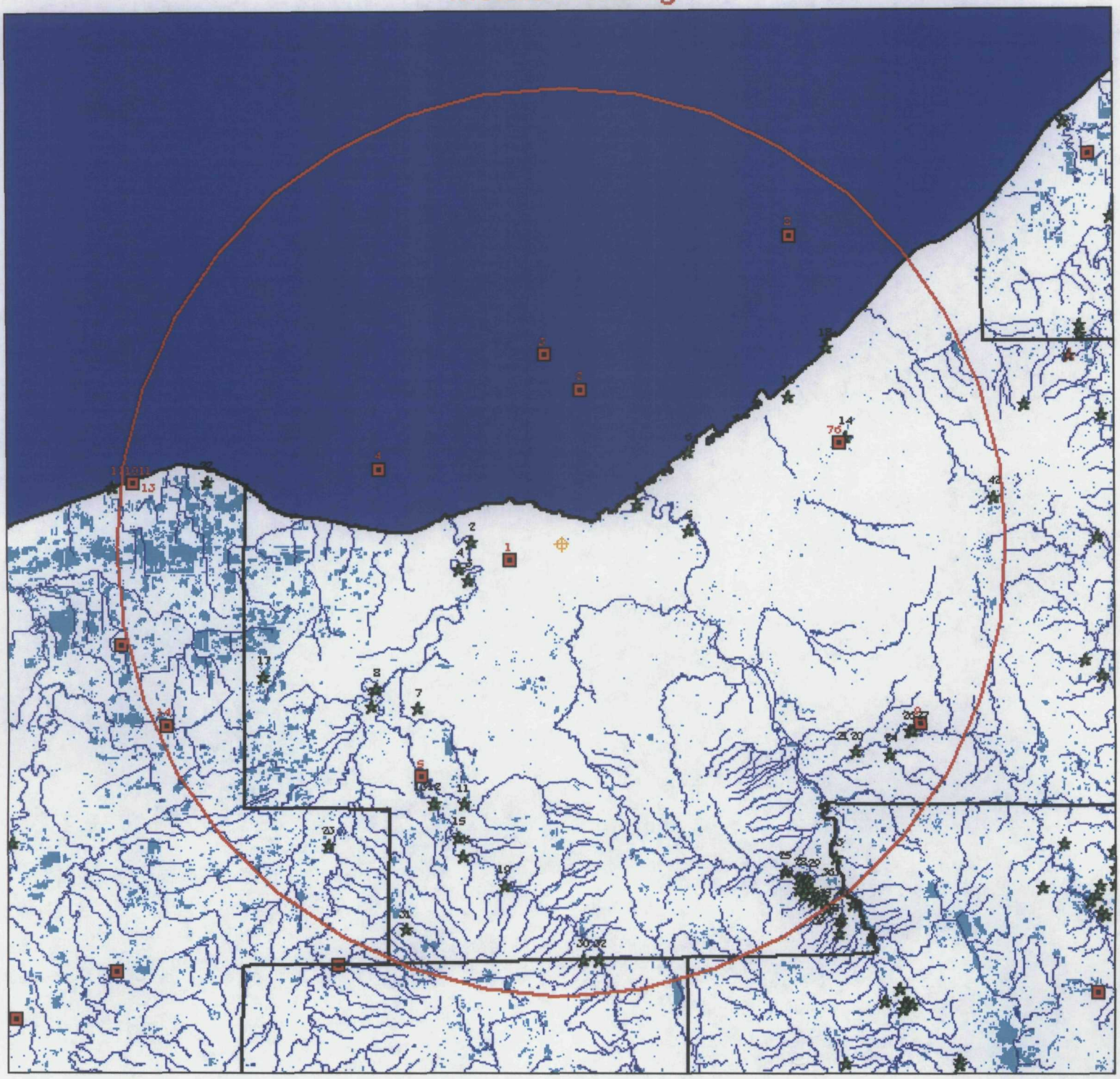
OhioEPA

Division of Emergency & Remedial Response

GEOGRAPHIC INFORMATION SYSTEM 15-MILE RADIUS MAP

NATURAL HERITAGE DATA

Metals Refining



Site

US Endangered/Threatened Species

Ohio Endangered/Threatened Species

Public Surface Water Systems

Community

Non-Community/Transient

Non-Community/Non-Transient

Rivers & Streams

Wetland Area

Lakes & Ponds

Limit of Radius From Site

County Boundaries

N

4 0 4 8 Miles